

What is claimed is:

1. An optical switch, comprising:
a mirror, an inclination angle of which varies
5 depending on an application voltage;
a driver device applying the application voltage
to the mirror;
an oscillation device generating an additional
signal of a prescribed frequency;
10 a superimposition device superimposing the
additional signal on the application voltage;
a detection device detecting a signal component
of the prescribed frequency from light reflected on the
mirror; and
15 a control device controlling the application
voltage based on the detected signal component.
2. The optical switch according to claim 1, further
comprising:
20 a storage device storing at least one of information
about the application voltage and information about
optical-coupling efficiency of the optical switch; and
a notification device notifying a prescribed
notification addressee of the information stored in the
25 storage device.

5

4

10

a)

15

20

30

20

Vc

25

[illegible]

5

10

15

20

25

a second driver device applying the second application voltage to the mirror;

a first oscillation device generating a first

a second oscillation device generating a second additional signal of a second frequency;

a first super imposition device superimposing the first additional signal on the first application voltage;

a second super imposition device superimposing the second additional signal on the second application voltage;

a third driver device applying the third application voltage to the latter mirror;

a fourth driver device applying the fourth application voltage to the latter mirror;

a third super imposition device superimposing the third additional signal on the third application voltage;

a fourth super imposition device superimposing the fourth additional signal on the fourth application voltage;

a detection device detecting respective signal components of the first, second, third and fourth frequencies from light reflected on the latter-stage mirror; and

a first control device controlling the first application voltage based on the detected signal component of the first frequency;

a second control device controlling the second

Sub
AIX
Cm

[illegible]

10 6. A control device for an optical switch with a mirror,
an inclination angle of which varies depending on an
application voltage, comprising:

15 an oscillation device generating an additional
signal of a prescribed frequency;

a detection device detecting a signal component
20 of the prescribed frequency from light reflected on the
mirror; and

25 7. A control device for an optical switch with a mirror,

an inclination angle in a first direction of which varies depending on a first application voltage and an inclination angle in a second direction of which varies depending on a second application voltage, comprising:

5 a first driver device applying the first application voltage to the mirror;

 a second driver device applying the second application voltage to the mirror;

 a first oscillation device generating a first
10 additional signal of a first frequency;

 a second oscillation device generating a second additional signal of a second frequency;

 a first superimposition device superimposing the first additional signal on the first application voltage;

15 a second superimposition device superimposing the second additional signal on the second application voltage;

 a detection device detecting respective signal components of the first and second frequencies from light
20 reflected on the mirror;

 a first control device controlling the first application voltage based on the detected signal component of the first frequency; and

 a second control device controlling the second
25 application voltage based on the detected signal

Sub
A1x
00005027 410701

component of the second frequency.

8. A control device for an optical switch with both
 a former-stage mirror, an inclination angle in a first
 5 direction of which varies depending on a first
 application voltage and an inclination angle in a second
 direction of which varies depending on a second
 application voltage, and a latter-stage mirror, an
 inclination angle in a third direction of which varies
 10 depending on a third application voltage and an
 inclination angle in a fourth direction of which varies
 depending on a fourth application voltage, comprising:
- a first driver device applying the first
 application voltage to the former-stage mirror;
 - 15 a second driver device applying the second
 application voltage to the former-stage mirror;
 - a first oscillation device generating a first
 additional signal of a first frequency;
 - a second oscillation device generating a second
 20 additional signal of a second frequency;
 - a first superimposition device superimposing the
 first additional signal on the first application voltage;
 - a second superimposition device superimposing the
 second additional signal on the second application
 25 voltage;

Sub
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22
 23
 24
 25
 26
 27
 28
 29
 30
 31
 32
 33
 34
 35
 36
 37
 38
 39
 40
 41
 42
 43
 44
 45
 46
 47
 48
 49
 50
 51
 52
 53
 54
 55
 56
 57
 58
 59
 60
 61
 62
 63
 64
 65
 66
 67
 68
 69
 70
 71
 72
 73
 74
 75
 76
 77
 78
 79
 80
 81
 82
 83
 84
 85
 86
 87
 88
 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100

a third control device controlling the third
25 application voltage based on the detected signal

Sub
Box
C-
0000007
= 40704

Sub
A1
end

009876-01

10

15

20

oscillation means for generating an additional signal of a prescribed frequency;

superimposition means for superimposing the additional signal on the application voltage;

detection means for detecting a signal component of the prescribed frequency from light reflected on the mirror; and

control means for controlling the application voltage based on the detected signal component.